EXHIBIT M

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Attorney Docket No. 1915.17US03

MORRIS

Application No.: 09/465,099 Group Art Unit: Unknown

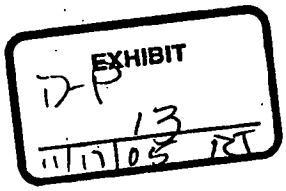
Filed: December 16, 1999 Examiner: Unknown

For: ROOF BATTEN

Reissue of U.S. Patent No.: 6,357,193

Issued: March 19, 2002

Mail Stop Reissue
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450



REISSUE APPLICATION TRANSMITTAL LETTER

Sir:

Enclosed for filing please find the Reissue Application papers of Richard J. Morris for ROOF BATTEN.

This application is a reissue of United States Patent No. 6,357,193 issued on March 19, 2002 to the above-named Applicant. Also enclosed are:

1. Preliminary Amendment – 7 pages; and

2. Copy of U.S. Patent No. 6,357,193 – 8 pages (including 4 sheets of drawings).

	No. Filed	No. in Original Patent	No. Extra	Rate	Basic Fee $770/$385
Total Claims	*	-*	=*	$18/9	$*
Independent Claims	*	-*	=*	$86/$43	$*
Multiple Dependency					
				Total Filing Fee	$*

Reissue of U.S. Patent No.: 6,357,193

No changes in the drawings upon which the original patent was issued are to be made. Therefore, in accordance with 37 C.F.R. § 1.174, please find a copy of the printed drawings of the patent. Four sheets of drawings are attached.

A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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CERTIFICATE OF EXPRESS MAIL

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Mai L. Vang
Name of Person Making Deposit

Signature

PATENT APPLICATION

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PRELIMINARY AMENDMENT

Mail Stop REISSUE
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Sir:

INTRODUCTORY COMMENTS

Amendment to the above-identified patent application is requested before prosecution on the merits commences.

The present amendment comprises the following sections:

A. Amendments to the Claims; and

B. Remarks.

Please grant any extension of time necessary for entry; charge any fee due to Deposit Account No. 16-0631.

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Mai L. Vang
Name of Person Making Deposit

Signature

Attorney Docket No.: 1915.17US03

AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below.

1. A tile roof system, comprising:

an overlayment;

a tile; and

a batten disposable between the tile and the overlayment, the batten comprising:

at least one layer comprising a generally planar first ply and a second ply, the first and second plies cooperating to define a multiplicity of passages extending generally transversely to a longitudinal axis of the batten.

2. (Amended) The batten of claim 1, in which the second ply includes a planar portion and a multiplicity of cross portions [plies] extending between the planar portion and the first ply [first plies].

3. The batten of claim 1, in which the second ply is generally convoluted.

4. The batten of claim 3, in which a pair of first plies is present.

5. The batten of claim 4, in which a plurality of layers are present.

6. The batten of claim 5, in which adjacent layers are hingably connected by a hingeline extending generally parallel to a batten longitudinal axis.

7. The batten of claim 6, in which the hingeline is defined by a slice extending through the second ply and one of the first plies.

8. The batten of claim 6, in which first and second hingelines are present, the first hingeline defined by a first slice extending through one of the first plies and the second ply, and the second hingeline defined by a second slice extending though the other of the first plies and the second ply.

9. The batten of claim 6, in which the hingeline is defined by alternate severed and intact portions, the severed portions comprising substantially severed first and second plies, the intact portions comprising substantially intact first and second plies.

10. The batten of claim 5, in which the layers are stacked and fastened together.

11. The batten of claim 10, further comprising means for fastening the layers together.

12. The batten of claim 10, in which the layers are fastened together by stitching.

13. The batten of claim 10, in which the layers are fastened together by fasteners selected from the group consisting of staples, glue, hot air welding, stitching, ultrasonic welding, infrared bonding, and any combination thereof.

14. A method of installing a tile on a roof with a slope, comprising the steps of:

providing first and second battens, each batten comprising at least one layer of a material comprising first and second plies defining a multiplicity of air passages therethrough, the passages extending generally transversely to a longitudinal axis of the batten;

fixing the first and second battens on the roof such that longitudinal axes of the first and second battens are generally parallel and extend generally horizontally to the roof slope; and

fixing the tile atop the first and second battens.

15. The method of claim 14, in which the layer comprises a first and second generally planar ply and a generally convoluted ply disposed between the first and second plies.

16. The method of claim 15, in which the provided battens comprise a plurality of layers.

17. The method of claim 16, in which the layers further comprise means for fixing said layers in a stacked relationship.

18. The method of claim 17, in which the fixing means includes stitching.

19. The method of claim 17, in which the fixing means is selected from the group consisting of staples, glue, hot air welding, stitching, ultrasonic welding, infrared bonding, and any combination thereof.

20. The method of claim 15, in which the provided battens comprise a plurality of hingably-connected layers.

21. A spacer operatively disposable between a roof decking and an exterior roof material and comprising a plurality of stacked layers, each layer comprising a generally planar first ply and a second ply cooperating with the first ply to define a multiplicity of passages, the passages extending generally transversely to a longitudinal axis of the spacer, the layers fastened together by stitching, adjacent layers connected by a hingeline extending generally parallel to the spacer longitudinal axis.

22. A spacer operatively disposable between a roof decking and an exterior roof material and comprising a plurality of stacked, completely separated layers fastened together by stitching, each layer comprising a generally planar first ply and a second ply cooperating with the first ply to define a multiplicity of passages, the passages extending generally transversely to a longitudinal axis of the spacer.

Please add new claims 23-25 as follows:

23. The batten of claim 2, in which the first ply and the second ply comprise a plastic.

24. The batten of claim 2, in which the cross portions are generally transverse to the first ply.

25. The batten of claim 2, in which the cross portions are generally perpendicular to the first ply.

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REMARKS

Claims 1-25 are pending. By this Amendment, claim 2 is amended and new claims 23-25 are added.

Claim 2 is amended to recite (added material underlined, deleted material bracketed) "The batten of claim 1, in which the second ply includes a planar portion and a multiplicity of cross portions [plies] extending between the planar portion and the first ply [first plies]." Basis for the additional subject matter recited in claim 2 may be found, e.g., in U.S. Patent 6,357,193, column 3, line 18 et seq. and in Figure 5.

New claim 23 depends from amended claim 2 and recites "the first ply and second ply comprise a plastic." Support for new claim 23 can be found, e.g., in U.S. Patent 6,354,193, column 3, line 34 et seq.

New claims 24 and 25 depend from amended claim 2 and recite that " the cross portions are generally transverse to the first ply" and that " the cross portions are generally perpendicular to the first ply," respectively. Support for new claims 24 and 25 can be found in the same portions of U.S. Patent 6,354,193 as cited with respect to claim 2.

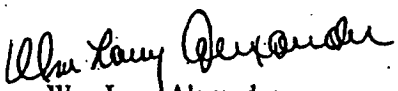
No new matter has been added by the amendments to the claims or by the added claims.

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

Attorney Docket No.: 1915.17US03

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



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US00635719

(12) **United States Patent**
Morris

(10) **Patent No.: US 6,357,193 B1**
(45) **Date of Patent: Mar. 19, 2002**

(54) **ROOF BATTEN**

(75) Inventor: Richard J. Morris, Prior Lake, MN (US)

(73) Assignee: Diversi-Plast Products, Inc., Golden Valley, MI (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/465,099

(22) Filed: Dec. 16, 1999

Related U.S. Application Data

(60) Provisional application No. 60/112,597, filed on Dec. 17, 1998.

(51) Int. Cl.[7] E04B 7/00; E04D 1/00

(52) U.S. Cl. 52/553; 52/198; 52/199

(58) Field of Search 52/198, 199, 553

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Primary Examiner—Carl D. Friedman
Assistant Examiner—Jennifer I. Thissell
(74) *Attorney, Agent, or Firm*—Patterson, Thuente, Skaar & Christensen, P.A.

(57) **ABSTRACT**

A roof batten for use in spacing tiles or similar exterior roofing members from a roof overlayment is provided. In one embodiment, the batten includes at least one layer of a corrugated plastic material with a pair of generally planar plies and a convoluted ply cooperating with the planar plies to define a multiplicity of passages. The passages allow drainage of water infiltrating the tiles and further promote drying.

22 Claims, 4 Drawing Sheets

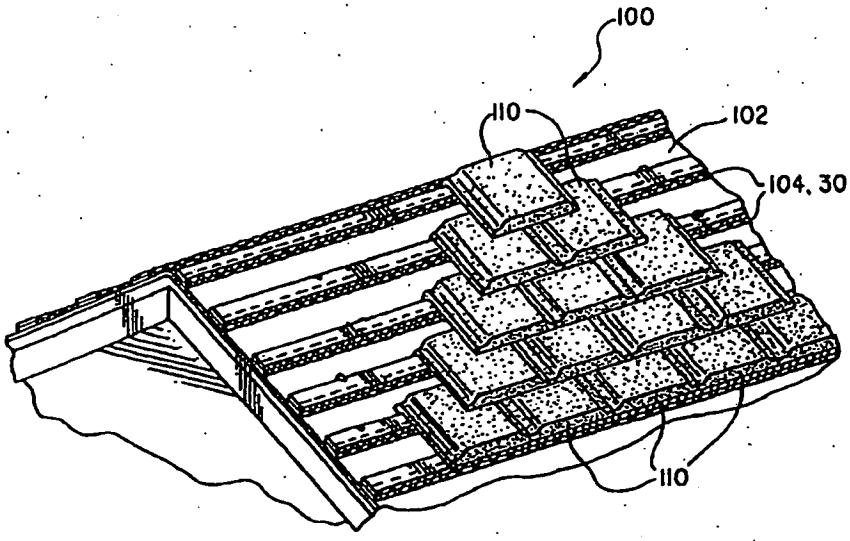


Fig. 1
PRIOR ART

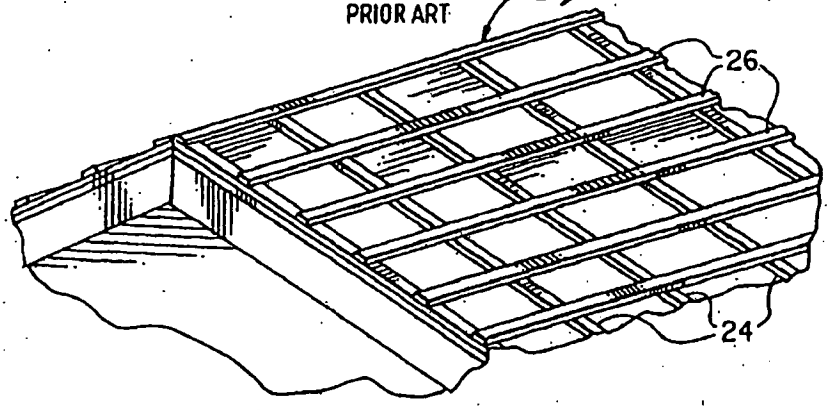


Fig. 2

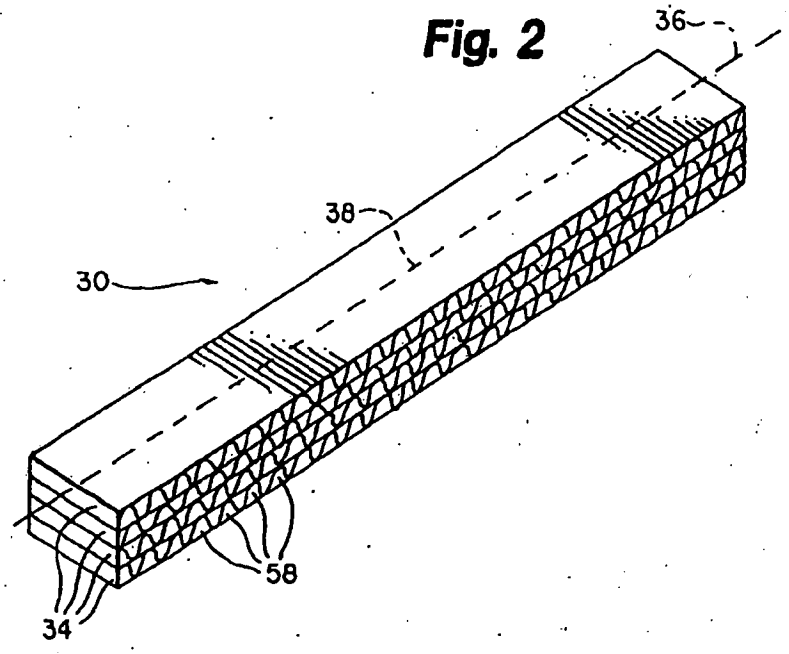


Fig. 3

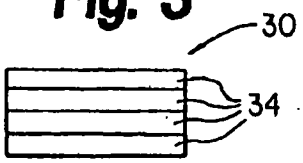


Fig. 4

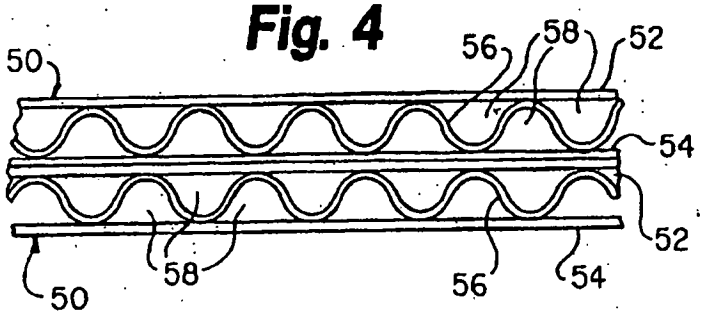


Fig. 5

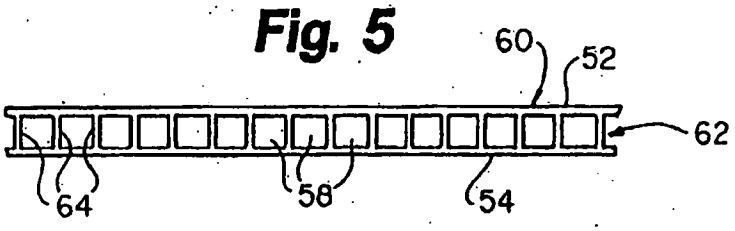


Fig. 6

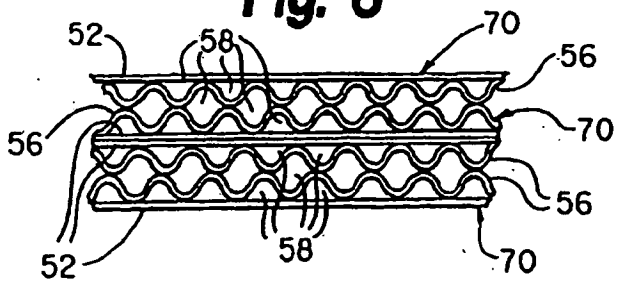


Fig. 7

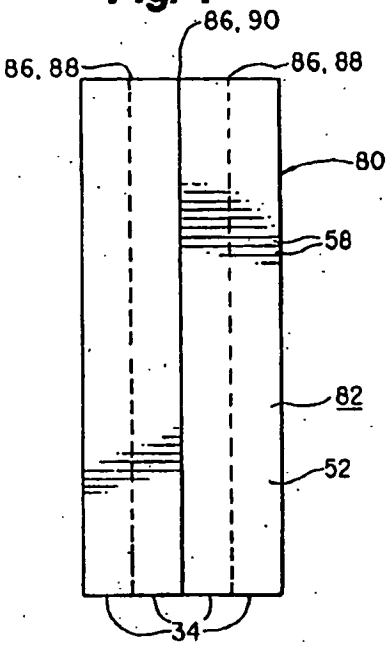


Fig. 8

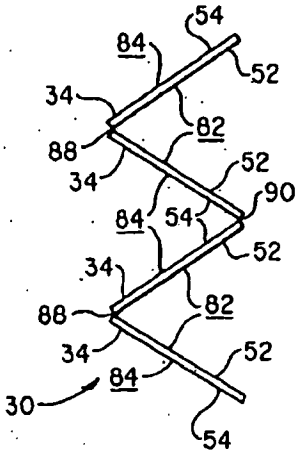
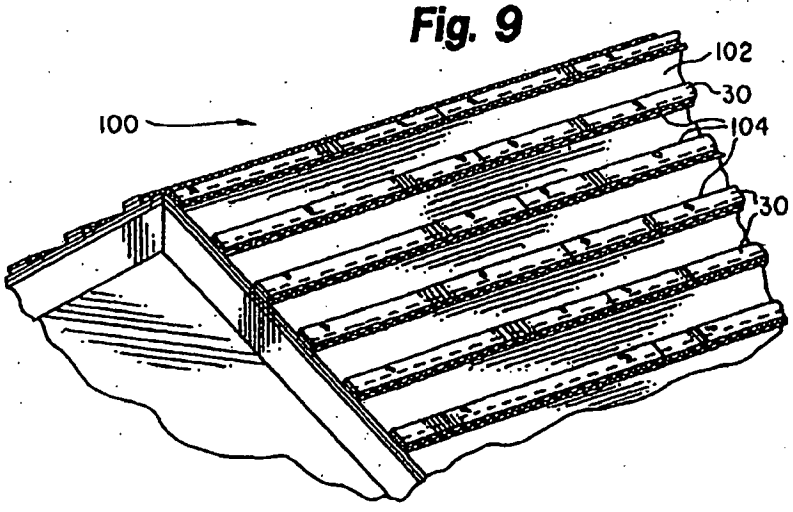


Fig. 9



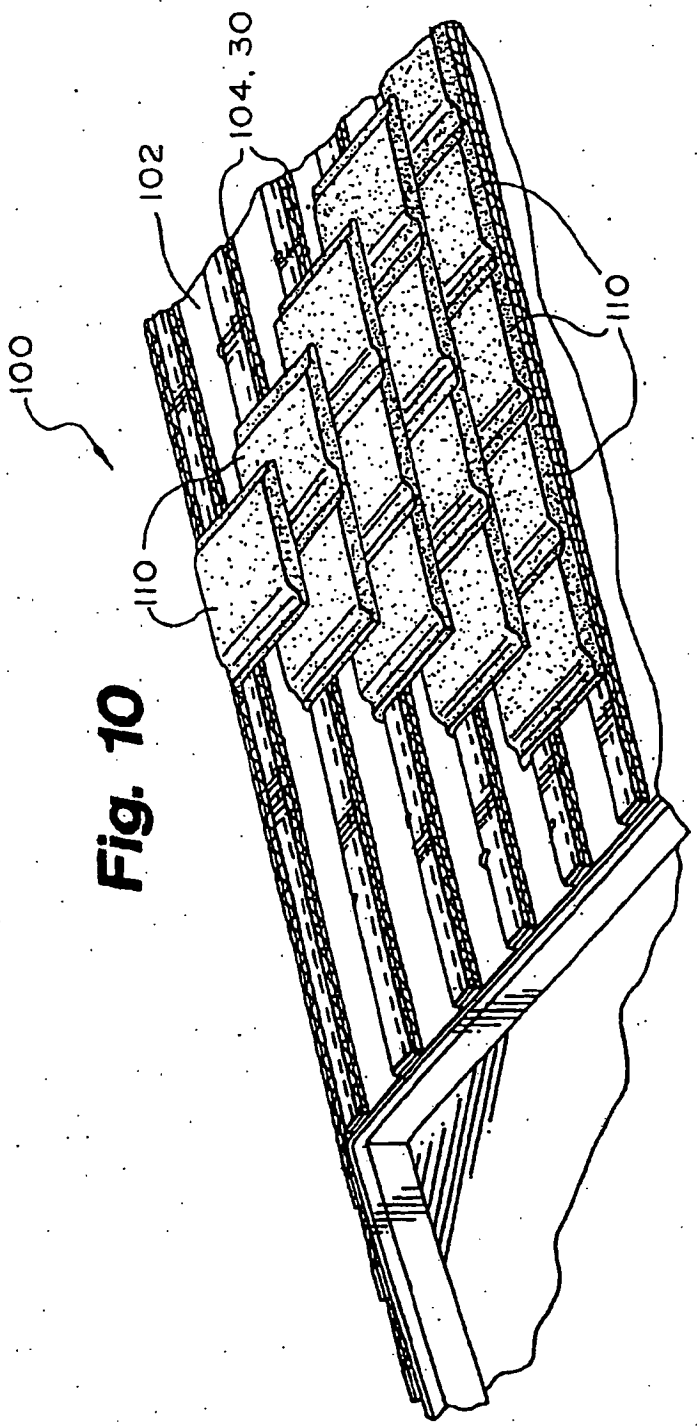


Fig. 10

The first function is to allow water to drain therethrough. The second is to enable air exchange. These complimentary functions prevent water pooling and promote drying on roofs on which batten 30 is installed. While one or more layers 34 are contemplated to be within the scope of this invention, if a plurality of layers 34 are present, these layers may be stacked and fixed to each other by such means as stitching 38. However, other fastening means which may be used include hot air welding (or other fastening means using thermal energy), ultrasonic welding, infrared bonding, staples, glue, or other methods known to the art.

One embodiment of two layers of layer 34 is depicted in FIG. 4 generally as layers 50. Each layer 50 includes planar plies 52 and 54 and convoluted ply 56. Convoluted ply 56 is disposed between and bonded to (or otherwise cooperates with) planar plies 52 and 54 to define a multiplicity of air channels 58 therebetween.

Another embodiment of layer 34 is depicted in FIG. 5 generally as layer 60. Layer 60 includes planar plies 52 and 54 and second ply 62. Second ply 62 includes a multiplicity of cross-plies 64. Cross-plies 64 extend generally perpendicular (or otherwise transversely) between planar plies 52 and 54. Thus, planar plies 52 and 54 and second ply 62 cooperate to define a multiplicity of channels 58 therebetween.

Referring to FIG. 6, yet another embodiment of layers 34 is depicted generally as four layers 70. Each layer 70 includes planar ply 52 and convoluted ply 56. Planar and convoluted plies 52 and 56 are bonded to (or otherwise cooperate with) each other to define a multiplicity of channels 58 therebetween. Layers 70 may be stacked such that convoluted plies 56 abut, thereby defining another multiplicity of channels 58 therebetween.

These embodiments of layers 34 include a corrugated plastic (resin) material with a nominal weight appropriate for the structure, and often between a range of about 140 and 160 pounds per thousand square feet. One nominal weight may be about 150 pounds per thousand square feet. The plastic resin may have a 4.0 to 4.5-millimeter profile. The plastic resin may further include an about 4.0 (±0.2) millimeter profile. The plastic material may still further be black and include ultraviolet (UV) inhibitors to enable the plastic resin to withstand extended exposure to direct UV light. The plastic resin may include a high-density, polyethylene, corrugated, plastic resin with a brittleness temperature of about −103.0 degrees F., a deflection temperature of about +162.0 degrees F. at 66 pounds per square inch, a burn rate of about 2.5 inches per minute, a self-ignition temperature of about 734.0 degrees F., and may also merit a label of "excellence" for smoke density of a 9.3 percent average.

Referring to FIGS. 7 and 8, exemplary sheet 80 may be formed of the materials discussed with respect to FIG. 4 and further described above. Thus, sheet 80 includes a multiplicity of channels 58 defined by a cooperation of members such as planar plies 52 and 54 and convoluted ply 56. Sheet 80 displays first and second surfaces 82 and 84. Exemplary layers 34 may be formed from sheet 80 by the slit-scoring technique or by the nick-scoring technique, each technique being more fully described below. Alternatively, layers 34 may be formed by completely severing sheet 80 generally along lines 86. Separate layers 34 are then stacked and fixed as described above.

The slit-scoring technique is described in U.S. Pat. No. 4,803,813, issued to Fitterman on Feb. 14, 1989, the entire contents of which are hereby incorporated by reference. In the slit-scoring technique, hingelines 88 alternate with hingelines 90. Hingelines 88 are defined by extending a slit generally along a line 86 and parallel (or generally transversely) to channels 58. The slit extends through planar ply 54 and convoluted ply 56, thereby leaving planar ply 52 intact. Hingelines 90 are defined by extending a slit generally along a line 86 and generally parallel to hingelines 88. The slit extends through planar ply 52 and convoluted ply 56, thereby leaving planar ply 54 intact. Intact planar plies 52 and 54 are thus used as hinges and batten 30 is assembled by Z-folding layers 34 along hingelines 88 and 90 in the manner depicted in FIG. 8.

The nick-scoring technique is an alternative hinge-forming technique described in U.S. Pat. No. 5,094,041, issued to Kasner et al., on Mar. 10, 1992, the entire contents of which are hereby incorporated by reference. In the nick-scoring technique, lines 86 include a series of generally linear perforations. Each perforation substantially extends through planar plies 52 and 54 and convoluted ply 56. Substantially intact portions of planar plies 52 and 54 and convoluted ply 56 remain between perforations. Lines 86 are thusly formed into hinges and thereby define layers 34. Layers 34 may be Z-folded along lines 86 in a manner substantially resembling FIG. 8 to assemble batten 30.

Still another hinge-forming technique includes forming completely separated layers 34 and hingably connecting adjacent layers 34 with a pliable adhesive member such as tape.

Channels 58 extend generally perpendicularly, or otherwise transversely, to longitudinal axis 36 of batten 30. As more fully described below, batten 30 is installed in generally horizontal rows on a roof. Channels 58 therefore allow water to drain therethrough, preventing water pooling and enabling air exchange once tiles, or other similar materials, are installed.

As depicted in FIG. 9, roof 100 includes overlayment 102 installed over a decking member as described above. Battens 30 are fixed to roof 100 in generally parallel rows 104. Rows 104 extend substantially horizontally with respect to the slope of roof 100. The distance between rows 104 is determined by the dimensions of the tiles or other materials to be installed. As depicted in FIG. 10, exterior roofing members such as tiles 110, are installed atop battens 30. Thusly installed on a roof, battens 30 function to space tile 110 from the remainder of roof 100 and to drain water which has infiltrated between installed tiles 110, thereby preventing the infiltrated water from pooling atop overlayment 102 and preventing the water from penetrating into the decking and structural members of roof 100. Also as installed on roof 100, channels 58 of battens 30 serve as conduits for air exchange beneath tiles 110, thereby further promoting evaporation of infiltrating water.

Exemplary roof batten 30 may be about ⅝ inches in thickness, 1½ inches in width, and include two hinged segments 48 inches in length. However, many other dimensions are contemplated to be within the scope of this invention. Exemplary roof batten 30 may be utilized with clay or cement tiles, including flat tiles, S-tiles, and barrel tiles. Moreover, while exemplary roof batten 30 is depicted as being used in conjunction with roof tiles, other exterior roof materials including slate, clay, metal, and cedar may also be installed using exemplary roof batten 30.

Batten 30 of this invention thereby promotes ventilation and prevents water accumulation beneath tiles or similar exterior roofing members. The result of installing the batten of this invention is thusly a roof, which remains drier and is more protected from decomposition and damage than if

battens of the prior art were used. The roof batten of this invention will not rot, warp, or absorb water as do many of the wooden roof battens of the prior art. Exemplary batten 30 further eliminates excessive nail protrusion through roof coverings, which can also promote water penetration and roof damage. Roof batten 30 of this invention may also enable a substantial decrease in time and expense necessary to install a tile roof as compared to lathe-batten systems of the prior art. Because one embodiment of roof batten 30 includes a pliable, yet resilient resin, tile breakage during installation is reduced when workers step on installed tiles. Other benefits of utilizing batten 30 include elimination of waste and wood splinters during installation. Exemplary battens 30 also weigh less than wooden battens. In contrast to wood battens, battens 30 are easily cut to desired lengths with utility knives.

Because numerous modifications may be made of this invention without departing from the spirit thereof, the scope of the invention is not to be limited to the embodiments illustrated and described. Rather, the scope of the invention is to be determined by appended claims and their equivalence.

What is claimed is:

1. A tile roof system, comprising:

an overlayment;

a tile; and

a batten disposable between the tile and the overlayment, the batten comprising:

at least one layer comprising a generally planar first ply and a second ply, the first and second plies cooperating to define a multiplicity of passages extending generally transversely to a longitudinal axis of the batten.

2. The batten of claim 1, in which the second ply includes a multiplicity of cross plies extending between the first plies.

3. The batten of claim 1, in which the second ply is generally convoluted.

4. The batten of claim 3, in which a pair of first plies is present.

5. The batten of claim 4, in which a plurality of layers are present.

6. The batten of claim 5, in which adjacent layers are hingably connected by a hingeline extending generally parallel to a batten longitudinal axis.

7. The batten of claim 6, in which the hingeline is defined by a slice extending through the second ply and one of the first plies.

8. The batten of claim 6, in which first and second hingelines are present, the first hingeline defined by a first slice extending through one of the first plies and the second ply, and the second hingeline defined by a second slice extending though the other of the first plies and the second ply.

9. The batten of claim 6, in which the hingeline is defined by alternate severed and intact portions, the severed portions comprising substantially severed first and second plies, the intact portions comprising substantially intact first and second plies.

10. The batten of claim 5, in which the layers are stacked and fastened together.

11. The batten of claim 10, further comprising means for fastening the layers together.

12. The batten of claim 10, in which the layers are fastened together by stitching.

13. The batten of claim 10, in which the layers are fastened together by fasteners selected from the group consisting of staples, glue, hot air welding, stitching, ultrasonic welding, infrared bonding, and any combination thereof.

14. A method of installing a tile on a roof with a slope, comprising the steps of:

providing first and second battens, each batten comprising at least one layer of a material comprising first and second plies defining a multiplicity of air passages therethrough, the passages extending generally transversely to a longitudinal axis of the batten;

fixing the first and second battens on the roof such that longitudinal axes of the first and second battens are generally parallel and extend generally horizontally to the roof slope; and

fixing the tile atop the first and second battens.

15. The method of claim 14, in which the layer comprises a first and second generally planar ply and a generally convoluted ply disposed between the first and second plies.

16. The method of claim 15, in which the provided battens comprise a plurality of layers.

17. The method of claim 16, in which the layers further comprise means for fixing said layers in a stacked relationship.

18. The method of claim 17, in which the fixing means includes stitching.

19. The method of claim 17, in which the fixing means is selected from the group consisting of staples, glue, hot air welding, stitching, ultrasonic welding, infrared bonding, and any combination thereof.

20. The method of claim 15, in which the provided battens comprise a plurality of hingably-connected layers.

21. A spacer operatively disposable between a roof decking and an exterior roof material and comprising a plurality of stacked layers, each layer comprising a generally planar first ply and a second ply cooperating with the first ply to define a multiplicity of passages, the passages extending generally transversely to a longitudinal axis of the spacer, the layers fastened together by stitching, adjacent layers connected by a hingeline extending generally parallel to the spacer longitudinal axis.

22. A spacer operatively disposable between a roof decking and an exterior roof material and comprising a plurality of stacked, completely separated layers fastened together by stitching, each layer comprising a generally planar first ply and a second ply cooperating with the first ply to define a multiplicity of passages, the passages extending generally transversely to a longitudinal axis of the spacer.

* * * * *

BOARD OF DIRECTORS MEETING

~~Date : April 18, 2006~~
Time : 7:00am
Location : Offices of Noack & Dean, 3636 American River Drive, 2nd Floor

ITEMS	PRESENTER
OLD BUSINESS	
Minutes of last meeting	DJ
FINANCE	
Treasurer's report	RP
Finance Report	DH
MEMBERSHIP New adds/drops Plan for contacting non-renewals Plan for charting participation	BP/JW
PROGRAM Upcoming Meetings	HM
SALARY SURVEY	MW
REGIONAL CONFERENCE	JE
NEW BUSINESS	
NEXT MEETING 5/9/06	

AGENDA

Sacramento Chapter

CFMA